Deceased 1953

DEMEKHIN, A.P.; AROYAN, V.Kh.

Mineral springs of the Vokhchi and Megri-get Basins. Izv.AN Arm. SSR.Ser.FMET nauk 1, no.1:39-52 '48. (MLRA 9:8)

1. Institut geologicheskikh nauk AN Armyanskoy SSR.
(Vokhchi Valley--Mineral waters)
(Megri-get Valley--Mineral waters)

SHUVAYEV, A.T.; DEMEKHIN, V.F.

Determining the number of 3d-electrons in transition metals.
Fiz. met. i metalloved. 12 no.6:912-913 D '61. (MIRA 16:11)

1. Rostovskiy gosudarstvennyy universitet.

SHUVAYEV, A.T.; DEMEKHIN, V.F.

Investigation of the absorption K-spectra of calcium in some compounds. Izv. AN SSSR. Ser. fiz. 25 no.8:992-993 Ag '61. (MIRA 14:8)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Calcium--Spectra)

S/048/62/026/003/014/015
B102/B104

AUTHORS: Blokhin, M. A., Demekhin, V. F., and Shveytser, I. G.

TITLE: Correction of the X-ray emission spectrum for self- absorption

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 3, 1962, 419 - 422

TEXT: Corrections for self-absorption are considered for the continuous and the characteristic spectrum separately. In the first case, it is not necessary to know the absolute values of the absorption coefficients. In the second case, the intensity of the characteristic spectrum can be given by $I = Ac^{-C_1\tau}\left[C_2 + C_3\tau\right]$ with

$$C_1 = \frac{x}{\sin\psi}\frac{V^2}{V^2-V_i^2},\quad C_2 = \frac{V-V_i}{V_i} - \lg\frac{V}{V_i},\quad C_3 = \frac{x}{\sin\psi}\frac{2V^2-3V^2V_i+V_i^2}{6V_i(V^2-V_i^2)}. \qquad (5),$$

where x is the maximum penetration depth of electrons, and τ is the absorption coefficient. A practical correction for self-absorption is demonstrated for the L_{β_2} band and the L_{III} spectrum of metallic Mo. The intensities

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with and without absorber (I and I_o) were measured. The scattered background itself was also measured with and without absorber (I_b and I_{bo}), allowing for the cosmic background intensity I_c. Then $\tau = 2.3\frac{\rho}{m}\log\left[(I_o - I_{bo} - I_c)/(I - I_b - I_c)\right]$. For a particular case x = 0.04 mm was obtained; $I_o = I \cdot 0.53/e^{-2.6\cdot10^{-5}\tau}(1+7.8\cdot10^{-6}\tau)$. The effect of voltage self-absorption was studied at 3.5, 5.5, and 12 kv. The self-absorption of the characteristic spectrum increases with increasing voltage while that of the continuous spectrum decreases. Since, however, the intensity of the former spectrum rises with increasing voltage more rapidly than that of the latter, it depends on geometry if the self-absorption of the continuous spectrum increases or decreases. There are 2 figures and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: Rostovskiy gos. universitet (Rostov State University)

ACCESSION NR: AP4038771

determine whether the K absorption of the silicon in the diffracting crystal would distort the spectrum in the $K\beta_x$ region; no such distortion was observed. A dry run was made with an aluminum sample held with the same cement as was used in the investigation proper; no lines were found in the region of interest. The presence of phosphorus in the silicon crystal produced no observable change in the spectrum.The experimental error in these measurements was ±0.07 eV for position, ±0.03 eV for line widths, and 2% for relative intensities. The width of both the $K\alpha_1$ and the $K\alpha_2$ line, corrected for instrumental broadening, was 0.45 ± 0.05 eV, and their separation was 0.56 eV. The shifts due to chemical bonding of the $K\alpha_1$ line, as well as those of the α_4, α_3, α_3' and α' satellites, agreed with the values obtained by N.G. Johnson (Diss.Lund,1939) and H.Karlsson-Flemberg (Z.Phys.96,167,1935). When the charge on the silicon ion increased, the satellites shifted approximately twice as far as the $K\alpha_1$ line, and the intensities relative to $K\alpha_1$ of the α_4 and α' satellites increased and those of α_3 and α_3' decreased. This behavior is discussed in terms of the charge between the K and L shells due to the valence electrons. The shape of the $K\beta_{1,x}$ band agreed well with that reported by Fogel' (loc.cit.). Fine structure was perceptibel in the $K\beta_x$ line. The $K\beta_1$ line was observed in pure silicon under conditions that are said to preclude its being due to the presence of SiO_2. The $K\beta$ bands of Si and C in SiC and of Si in the pure crystal were found to be very si-

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ACCESSION NR: AP4038771

milar. From this it is concluded that the distribution of electrons in the valence bands of these substances is determined mainly by the lattice, which has the diamond structure in both cases. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvenny*y universitet (Rostov-on-the-Don State University)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: OP NR REF SOV: 003 OTHER: 008

Card 3/3

ACCESSION NR: AP4038774 S/0048/64/028/005/0834/0835

AUTHOR: Blokhin, M.A.; Demekhin, V.F.; Shveytser, I.G.

TITLE: L Spectra of some molybdenum compounds [Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep to 1 Oct 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 834-835

TOPIC TAGS: x-ray spectrum, x-ray absorption, molybdenum, molybdenum compound, chemical bond

ABSTRACT: In order to obtain information concerning the extent to which electrons in the incomplete 4d shell of transition metals participate in chemical bonding, the L_{II} and L_{III} absorption spectra and the $I\beta_2$ emission bands of metallic molybdenum, and Mo in MoO_3, $CaMoO_4$ and MoS_2 were recorded. Although some of these spectra have been previously reported, the results of different workers are not all in agreement; moreover, the earlier spectra were not corrected for the width of the inner level. The spectra were recorded photographically with a spectrometer having a resolution of 12 000, and the L_{III} edge was observed with a second instrument having half this resolving power and employing an ionization chamber for recording. The ob-

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ACCESSION NR: AP4038774

served spectra were corrected for the width of the inner level, the width of the Mo L_{III} level being assumed to be 1.76 eV. The corrected absorption curve for metallic Mo did not break sharply; this indicates that the L_{III} level is in fact somewhat wider than assumed. A gap between the emission and absorption was perceptible in the insulators MoO_3 and $CaMoO_4$. The L_{III} spectra were in good agreement with those obtained by I.V.Borovskiy, K.P.Gurov,et al (Izv.AN SSSR,Ser.fiz.21,1401,1957). As the valence increased, the absorption edge shifted toward shorter wavelengths. This shift, which attained 3.4 eV for the L_{III} edge of $CaMoO_4$, is ascribed to decreased shielding of the inner portion of the atom by the valence electrons that become involved in chemical bonds. A second sharp absorption line was observed in the L_{III} spectrum of $CaMoO_4$ at 13 eV from the primary line. Such lines have been previously observed in molybdenum compounds and are ascribed to transitions of 2p electrons to the incomplete 4d shell. Orig.art.has: 3 figures and 1 table.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvenny*y universitet (Rostov-on-the-Don State University)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: OP NR REF SOV: 008 OTHER: 000

Card 2/2

L 8809-66 EWT(l)/EWT(m)/EWP(j)/T/EWA(m)-2 IJP(c) RM/LHB

ACC NR: AP5024696 SOURCE CODE: UR/0056/65/049/003/0765/0769

AUTHOR: Sachenko, V. P.; Demekhin, V. F.

ORG: Rostov-on-Don State University (Rostovskiy-na-donu gosudarstvennyy universitet)

TITLE: Satellites of x-ray spectra

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965, 765-769

TOPIC TAGS: x ray spectrum, spectral line, ionization phenomenon, electron interaction, satellite, photon scattering, nonradiative transition, chemical bonding

ABSTRACT: To obtain information on the ionization mechanism of the inner shells of atoms and on the behavior of electrons in a solid, the authors studied the properties of some types of satellites and their nature. The study is based on the concept of auto-ionization of the atom when the number of inner electron changes, and leads to a single mechanism for the appearance of multiply ionized atoms excited by either electrons or photons. The method is based on the fact that a change in the number of electrons produces a sudden perturbation of the potential of the remaining electrons. The calculated intensities of the x-ray Kα and some Kβ satellites are in agreement with the experimental data. It is shown that nonradiative transitions influence greatly the relative intensity of the KL_I and $KL_{II\ III}$ satellites. The effect of the chemical bonding on the satellite intensity is considered. Authors thank R. V. Vedrinskiy for a number of valuable remarks and a discussion. Orig. art. has: 1 figure and 7 formulas.

SUB CODE: 20/ SUBM DATE: 28Oct64/ ORIG REF: 004/ OTH REF: 008

Card 1/1 jw

L 14493-65 EWT(m) DIAAP/AFWL/SSD/ESD(t)

ACCESSION NR: AP4048636 S/0048/64/028/010/1657/1663

AUTHOR: Vartapetyan,G.A.; Garibyan,T.A.; Demekhina,N.A.; Muradyan,E.G.; Khudaverdyan,A.G.

TITLE: Properties of the levels and radiations of the odd-A nuclei Cs^{131} and Cs^{133} /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.10, 1964, 1657-1663

TOPIC TAGS: nuclear physics, nuclear radiation, nuclear structure, gamma emission

ABSTRACT: Delayed γ-coincidence measurements were performed with Cs^{131} (and in one case with Cs^{133}) in order to obtain information concerning the nature of the excited states and the extent to which they involve collective motions. KI crystals were used in a delayed coincidence circuit with a resolving time of 10^{-8} sec. The performance of the circuit was checked by observing prompt coincidences from Co^{60}. With the aid of the known different lifetimes of the 124 and 133 keV Cs^{131} levels, it was determined from the delayed coincidence measurement results that the 1039 keV level decays almost 15 times more frequently to the 124 keV level than to the

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133 keV level. This contradicts conclusions drawn from the model of L.W.Person and I.O.Rasmussen (Nucl.Phys.36,166,1962). The half-life of the 620 keV Cs^{131} state was measured by triple KX30-γ495-γ124 coincidences, and that of the 438 keV Cs^{133} state was measured by a similar method. Both half-lives were found to be less than 1.5×10^{-10} sec. The half-life of the 1039 keV Cs^{131} state was found by delayed KX30-γ1039 coincidences to be less than 2×10^{-9} sec. The half-life of the 133 keV Cs^{131} state was found to be 13.5×10^{-9} sec; this is in agreement with the finding of E.Bodenstedt et al (Nucl.Phys.20,557,1960). The angular correlation of the 495 and 124 keV γ-rays of Cs^{131} was examined and an anisotropy of the order of 0.01 was found. It is concluded that the decay of the 124 keV level is 97% by M1 transition and 3% by E2. The ratio of the reduced E2 width to the theoretical value for a single-particle state was found to be greater than 4.5 for the 356 keV Cs^{133} state, greater than unity for the 495 keV Cs^{131} state, and approximately 6 for the 133 keV Cs^{131} state. These estimates are in satisfactory agreement with calculations of R. Sorensen (Phys.Rev.133,B281,1964) in which nucleon pairing and collective vibrations were taken into account. The significance of these findings for models of odd-A nuclei is discussed. "In conclusion the authors express their gratitude to A.I.Alikhanyan for his interest in the work." Orig.art.has: 2 formulas, 4 figures and 3 tables.

L 14[illegible]-65

ACCESSION NR: AP4048636

ASSOCIATION: Fizicheskiy institut Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR (Physics Institute, State Committee on the Uses of Atomic Energy, SSSR)

SUBMITTED: 00 ENCL: 00

SUB CODE: NP NR REF SOV: 005 OTHER: 020

3/3

DENGYHINA, T.A.

"Diseases of Sprouts of Hemp and Control Measures," in Bast Crops, Hemp, Kenaf, Abutilon, Ramie, Jute and Okra, State Publishers of Agricultural Literature, Moscow, 1950, pp. 100-107. 73 V96

So: SIRA S1-90-53, 15 Dec 1953

USSR / General and Specialized Zoology - Insects. P

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 20893

Author : Demekhina, T. A.
Inst : Not given
Title : Protection of Hemp from Soil Pests

Orig Pub : Zashchita rast. ot vredit. i bolezney, 1958, No 2, 60

Abstract : The testing of 12% hexachlorocyclohexane in the Sumskaya Oblast' against the grubs of the May beetle and click beetles. The first version - introduction during cultivation prior to sowing (120 kg/ha), and the 2nd version - the dusting of the seeds (1.5 kg/centner). From 540 seeds sowed on 1 m^2, the following germinated: in the 1st version, 56.1%; in the 2nd, 61.3%; in the

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L 22001-66 EWT(m)/EWP(v)/EWP(j)/T/ETC(m)-6 IJP(c) WW/RM

ACCESSION NR: AP5024505 UR/0191/65/000/010/0035/0036

678.643'42'5.01:539.612:666.189.211

AUTHOR: Golubenkova, L. I.; Demekhina, Ye. M.

TITLE: Adhesion of epoxy resins to glass cloth

SOURCE: Plasticheskiye massy, no. 10, 1965, 35-36

TOPIC TAGS: fiberglass, glass cloth, adhesion, epoxy plastic, heat resistance, resin/ED-5 resin, TS 8-3-250 glass cloth

ABSTRACT: The adhesion of epoxy resins to glass cloth was examined in this study using ED-5 resin and TS 8/3-250 glass cloth lubricated with paraffin. Adhesion of the resin to the cloth depends on curing conditions and the amount of curing agent in the adhesive. The resin-glass bonding was stronger with elevated temperature cures (160C for 1 hour) than with a 24 hour room temperature cure. Curing of the epoxy predominated as the amount of polyethylenepolyamine curing agent was increased from 8 to 15% on the weight of the resin. Reaction between the epoxide group and the surface of the glass cloth was enhanced and bond strength was increased as the amount of curing agent was reduced to about 4%.

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L 22001-66

ACCESSION NR: AP5024505 2

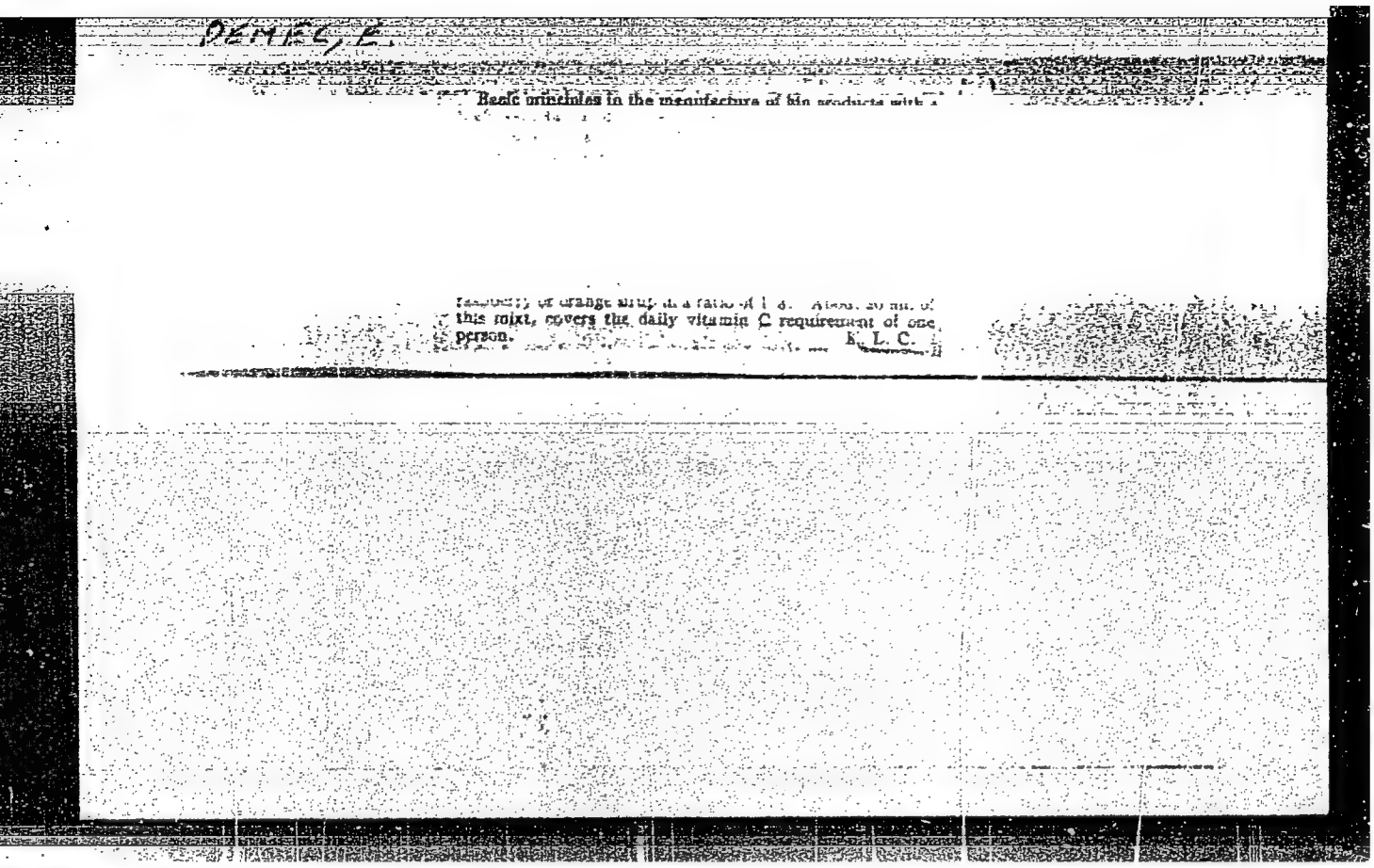
Below this the cohesive strength of the resin is reduced, leading to rupture. Tests were run using ED-5 with different amount of resin DEG-1 based on diethylene glycol and epichlorohydrin, using triethanolamine titanate as the curing agent. Resin-glass bond strength increased as DEG-1 was increased to 50%. However, the strength of the fiberglass subjected to static flex testing decreased as the amount of DEG-1 was increased. Preliminary coating of glass cloth with resin with subsequent application of a second coat of resin reduced the strength of the fiberglass in comparison to fiberglass made by the customary one-application method. The increase in the heat resistance of fiberglass based on epoxy resins is associated with the reaction of the resin with the glass surface. Orig. art. has 3 figures

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: //

NR REF SOV: 008 OTHER: 008

Card 2/2 BK



DEMEC, E.

Basic principles in the manufacture of fin products with

[illegible] of orange [illegible] this mixt, covers the daily vitamin C requirement of one person.

K. L. C.

SPANYAR, Pal; KEVEI, Janosne; BLAZOVICH, Marta; DEMEL, Ervinne; KUTZ, Vaszilijne

Requirements for preserving vitamin C in fruit juices and refreshing drinks. Konzerv paprika no.6:189-193 N-D '62.

1. Kozponti Elelmiszeripari Kutato Intezet.

47. Quantitative analysis of ascorbic and dehydroascorbic acid in the presence of reductones — *Aszkorbinsav és dehidroaszkorbinsav mennyiségének meghatározása redukálónak feltételében* — P. Spanyár, M. Kinzel and I. Demel. (Hungarian Journal of Chemistry — *Magyar Kémiai Folyóirat* — Vol. 59, 1953, No. 5, pp. 143—148, 6 figs., 2 tabs.)

The total reducing power of ascorbic acid and of reductones was determined by the *Schulek* α, α'-dipyridyl method. In order to determine the reducing power of reductones, first the reductive effect of ascorbic acid must be done away with. An extract made with glacial acetic acid to which ammonium acetate is added. At pH 3 and 40° C the destruction of ascorbic acid takes place within two hours. In the presence of the destroyed ascorbic acid the reductive power of the reductones could also be determined by the *Schulek* α,α'-dipyridyl method. The real ascorbic acid content corresponds to the difference between the values obtained by the original α,α'-dipyridyl method and the modified method. The real quantity of dehydroascorbic acid is also determined in two steps. The total amount of dehydroascorbic acid and of the interfering substances can be determined by the *Roe* 2,4-dinitrophenylhydrazine method. If the material to be investigated is allowed to stand in an alkaline medium at pH 10.4 for 30 minutes at a temperature of 20° C the dehydroascorbic acid will decompose while the interfering substances remain unchanged. The true value of dehydroascorbic acid is obtained if these substances are determined by the *Roe* method, the results are expressed in terms of dehydroascorbic acid and this value deducted from that arrived at by the original method. *P. S.*

DEMEL, JADWIGA

PHASE I BOOK EXPLOITATION POL/1224

Mała energetyka; biuletyn, Nr 2 (Low-Capacity Power Engineering; Bulletin, No. 2). Kraków, Towarzystwo naukowe dla wykorzystania źródeł energetycznych w Polsce, 1958. 131 p. 3,000 copies printed.

No editors mentioned.

PURPOSE: This bulletin is intended for power engineers and technicians specializing in the development of low-capacity natural resources and for users of such power resources for local agricultural and industrial applications.

COVERAGE: This collection of articles is devoted to the problems of the utilizations for local consumption of regional power resources other than coal and oil. Such energy resources include water, wind, sun, tides, natural and waste gases, peat, shale, hot springs and others less known or as yet unexplored. The study of such resources and of their use is presented in a series of articles concerning achievements and experience in Poland and other countries. There is a detailed bibliography, largely of non-Soviet and non-Polish source material, at the end of the book. No personalities are mentioned.

AVAILABLE: Library of Congress

Card 6/6

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(5)

DEMEL, Josef.

Pains of the upper extremity. Polski przegl.chir. 27 no.10: 971-976 Oct. '55.

1. Z Chirurgicznego oddzialu Szpitala w Ostrawie I. Kierownik: doc. dr Censtmir Vohnout Ostrava, I. chirurg.oddel.
(ARM, diseases, pain)

DEMEL, Josef, MUDr

Proposal for a suitable modification of gastric clips. Rozhl.chir. 34 no.6:375-377 June 55.

1. Z chirurgickeho oddeleni OUNZ Ostrava I. prednosta doc. Dr. Cestmir Vohnout.
(APPARATUS AND INSTRUMENTS
gastric clips, improved form)

DEMEL, J., MUDr.; SIMA, J., MUDr.

Blunt injury to the liver. Rozhl. chir. 35 no.4:216-220 Apr 56.

1. Z chirurgickeho nemocnice v Ostrave I, prednosta doc. MUDr. Cestmir Vohnout.
(LIVER, wds. & inj.
blunt inj., surg. (Cz))

DEMEL, Josef, MUDr.

Transperitoneal sympatectomy. Roshl. chir. 35 no.12: 733-735 Dec 56.

1. Chirurgicke oddeleni nemocnice Ostrava I, prednosta doc. dr. Cestmir Vohnout.
(SYMPATECTOMY
transperitoneal, bilateral resection of lumbar sympathetics in one operation (Cz))

DEMEL, Josef; PEGRIM, Radomir

False perirenal traumatic cyst. Rozhl. chir. 37 no.5:311-314 May 58.

1. Chirurgicke oddeleni KUNZ v Ostrave, prednosta prim. MUDr. K. Typivsky a Ustav pro normalni anatomii Lekarske fakulty Palackeho university v Olomouci, prednosta doc. MUDr. J. Zrzavy. J. D., Ostrava-Stalingrad, Goncarovova 3.

(KIDNEYS, cysts
perirenal cyst simulated by traum. ureteral rupt., case report (Cz))
(URETERS, rupt.
simulating perirenal pseudocyst, case report (Cz))

VRANA, Bohumir; MATIS, Frantisek; MALY, Bohumir; DEMEL, Josef

Congenital obliteration of the gastrointestinal lumen. Cesk. pediat. 14 no.2:130-133 5 Feb 59.

1. Detske oddeleni nemocnice OUNZ v C. Tesine, prednosta dr. B. Vrana Chirurg. oddeleni nemocnice OUNZ v. C. Tesine, prednost dr. F. Matis Chirurg. oddeleni nemocnice KUNZ v Ostrave-Zabrehu, prednosta dr. K. Typovsky Detske oddeleni KUNZ v Ostrave-Zabrehu, prednosta dr. B. Vranova.
(GASTROINTESTINAL SYSTEM, abnorm.
obliteration of lumen (Cz))

DEMEL, Josef

Gastrostomy with an isolated jejunal loop. Rozhl. chir. 39 no.4: 250-253 Ap '60

1. Chir. odd. KUNZ Ostrava V, prednosta C. Sc. dr. K. Typovsky.
(STOMACH NEOPLASMS, surg.)
(ESOPHAGUS, neopl.)
(JEJUNUM, transpl.)

DEMEL, J.

DEMEL, KAZIMIERZ.

Zycie morza; zarys oceanografii biologicznej. Gdansk, Instytut Baltycki, 1947. 443p. (Prace naukowo-informacyjne. Seria: Sprawy morskie) (Life of the sea; an outline of biological oceanography. illus., port., maps, bibl., index, tables)

SO: Monthly Index of East European Accession EEAI) LC Vol. 7, No. 5, 1958

DEMEL, K.

"Attempt to Determine the Biological and Fishing Potentialities of the Baltic Sea." P. 9, (GOSPODARKA RYBNA, Vol. 5, No. 12, Dec. 1953. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

POLAND / General Division, History, Classics, Personnel

Abs Jour: Ref Zhur-Biologiia, No 5, 1958, 18853

Author : Demel Kazimierz

Inst : -

Title : Prof Dr. Borys Dixon

Orig Pub: Techn. i gospod, morska, 1955,5, No 6, 157

Abstract: An obituary of the Polish ichthyologist Dixon (died, 1955), a researcher of commercial fish species (herring, sprat, flounder, salmon). He was the first in Poland to introduce the method for determining the age of fish, which was based on research on the scales, and the layered growth of the bones.

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DEMEL, K.

DEMEL, K. The Baltic Sea. p. 313

Vol. 26, No. 4, 1955
CZASOPISMO GEOGRAFICZNE
GEOGRAPHY & GEOLOGY
Poland

So: East European Accessions, Vol. 5, No. 5, May 1956

DEMEL, Kazimierz

Polish research on the marine biology in the 15 years period 1945-1960. Kosmos biol 10 no.6:525-539 '61.

(Poland--Marine biology)

DEMEL, Kazimierz, prof. dr

Oceans and seas, the pantry of humanity. Horyz techn 17 no.6:12-13 Je '64.

DEMEL, M.

DEMEL, M.; MULLER, M.

Results of conservative treatment of scoliosis. Chir. narz. ruchu 22 no.2:211-213 1957.

1. Z Miedzyszkolnej Przychodni Lekarskiej Nr 1 w Warszawie Kierownik: dr K. Sokal Kierownik naukowy; prof. dr G. Wejsflog. Warszawa, ul. Hoza 88, Miedzyszkolna Przychodnia Lekarska Nr 1.

(SCOLIOSIS, ther.
conservative
(SCOLIOSIS, in inf. & child
conservative management, indic. (Pol))

DEMEL, Maciej

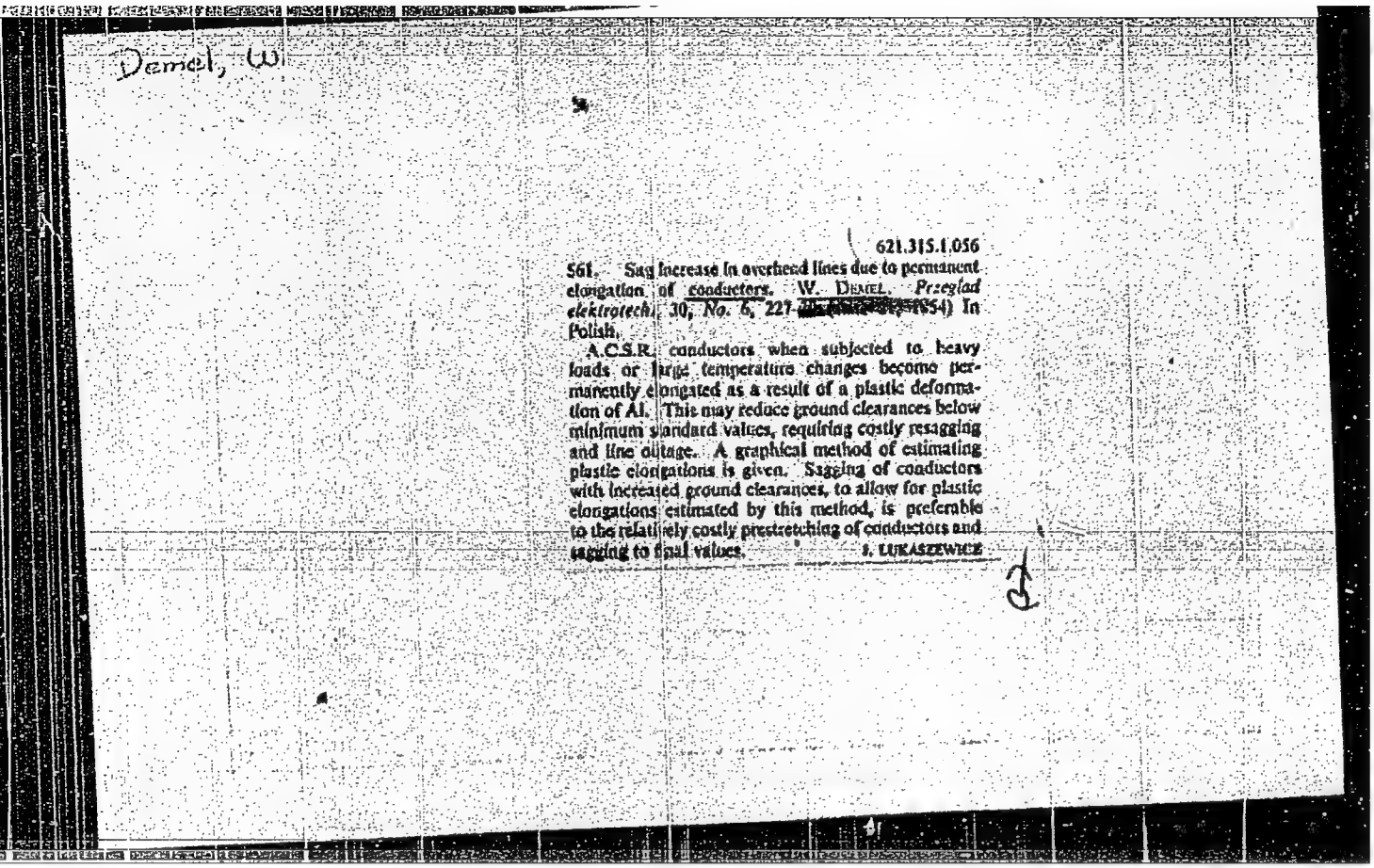
Physical education; a research problem. Review Pol Academy 7 no.2:63-66 Ap/Jl '62.

1. Institute for Research in Physical Culture, Warsaw. Director of the Institute: Professor Wlodzimierz Missiuro, Warsaw, Marymoncka 34.

DEMEL, Maciej

Physical culture as a scientific problem; from the activities of the Scientific Institute of Physical Culture. Nauka polska 10 no.3:73-78 My-Je '62.

1. Instytut Naukowy Kultury Fizycznej, Warszawa, Marymoncka 34. Dyrektor Instytutu: prof. Wlodzimierz Missiuro.



Daniel, W

621.315.1.056

561. Sag increase in overhead lines due to permanent elongation of conductors. W. DANIEL. *Przegląd elektrotech.*, 30, No. 6, 227 [illegible] (1954) In Polish.

A.C.S.R. conductors when subjected to heavy loads or large temperature changes become permanently elongated as a result of a plastic deformation of Al. This may reduce ground clearances below minimum standard values, requiring costly resagging and line outage. A graphical method of estimating plastic elongations is given. Sagging of conductors with increased ground clearances, to allow for plastic elongations estimated by this method, is preferable to the relatively costly prestretching of conductors and sagging to final values. J. ŁUKASZEWICZ

DEMEL, W.

POL.

621.315.1

1506. Typical 110 kV electric power lines. J. CIWALEWSKI, W. DEMEL, Z. WILK AND Z. ZMUDZIŃSKI. *Przegląd elektrotech.*, 30, *No.* 9, 381–6 (1954) In Polish.

Aluminum cables steel-reinforced have been chosen for transmission of 30–40 MW over approx. 50 km. Two overhead ground wires are multi-grounded on steel tower lines. Wood-pole lines have only 2 km of overhead ground wire on approaches to substations. Tensions in ACSR at 15°C limited to 20% of ultimate strength, in steel wire to 15%. Steel towers are designed for spans of 300 m., wood structures for 200 m. spans. Six insulators of two types were used in suspension and dead-end strings. Steel towers, lattice, multiple-braced, are factory-welded in sections for bolting on site. Semi-dead-end towers were designed for one broken conductor. Only 6 types of towers were designed, heights being suitably increased by standard footing extensions. The type of prefabricated foundation to be used depends on soil classification. Wooden structures use only gusset plates with U-bolts, no through bolts, a single pole diagonal brace; the welded crossarm will be superseded by timber. Adequate foundations and structure height are obtained by use of prefabricated reinforced concrete stubs with horizontal cross-pieces.

T. ŁUKASZEWICZ

DEMEL, W.

POL. 6

621.315.1.056.5

1508. **Ice loading of electric conductors.** W. DEMEL. *Przegląd elektrotech.*, 30, No. 12, 502–9 (1954) In Polish.

Formation of three main types of ice deposit is explained with reference to meteorological and topographical conditions and the regulations of various countries providing for wind and ice loading are compared. The following aspects of transmission line design are considered from the point of view of the ice loading: the critical span, the conductor tensions existing at various periods of operation, the vibration of conductors due to wind, and the effect of rigid fixing of the earthing wires at the tower top. The use of safety links is suggested for important h.v. lines.

S. M. DEMBINSKI

DEMEL, W.

621.315.17

4641. Transmission lines making full use of wood insulation. W. Demel. *Przegląd elektrotech.*, 31, No. 4, 309–315 (1955) in Polish.

Transmission lines with wood crossarms, without any steel crossarm bracing, have greater freedom from lightning outages than lines with steel crossarms. Pre-installation and maintenance wood treatments are recommended. Use of wood crossarms is recommended for lines up to 110 kV, except for areas with high rates of contamination leading to wood burning. Details of a typical 110 kV tangent structure show that to avoid timber decay, all bolts through wood poles and crossarms have been eliminated by U-clamps.

J. LUKASZEWICZ

DEMEL, W.

Proper use of wood in overhead electric lines.

P. 18, (Przeglad Elektrotechniczny. Vol. 32, no. 1, Jan. 1956, Warszawa, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

DEMEL, J.

DEMEL, W. Insulation in areas with increased atmosphere pollution and its influence on the construction of poles for overhead power lines. p. 50. Vol. 32, no. 2, Feb. 1956. PRZEGLAD ELEKTROTECHNICZNY. Warszawa, Poland.

SOURCE: East European Accessions List (EEAL) LC Vol. 5, No. 6 June 1956

DEMEL, Waclaw, mgr inz.; KAWKA, Kazimierz, ins.

A 400 kv transmission line. Przegl elektrotechn 39 no.9:330-335 S '63.

1. Energoprojekt, Oddzial Krakow.

DEMEL, Zdenek, inz.

Weda-Leyton membrane pumps. Uhli 7 no.1:34 '65.

Weda-Lenz immersion pumps. Ibid.:35

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CN

15

Liming pastures. L. Brada and J. Deucla. *Věstník Českoslov. Akad. Zeměděl.* 9, 515-6(1933); *Chem. Obzor* 9, Abstract sect., 205.—Sufficient lime should be added for from ¹/₂ to complete adsorption satn. of the soil complex. The crop yields are not in a definite and const. relation to p_H values found exptly. Higher resistance of clover is not acquired by increasing amts. of lime.

J. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

DOBIA, J.

"Mechanization of grass sowing.", p. 237, (ZA SOCIALISTICKE ZEMEDELSTVI, Vol. 3, #3, Mar. 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress, August 1953, Uncl.

DEMELA, JOSEF.

AGRICULTURE

Demela, Josef. Pestovani jetele cerveneho a vojtesky na semeno. [Vyd. 1.]
Praha, Statni zemedelske nakl., 1956. 61 p. (Vzory naseho zemedelstvi)
[Producing red clover and alfalfa seed. 1st ed.]
DA Not in DLC

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 5, May 1959, Unclass.

DEMELA, JOSEF,

Prakticke travina rstvi a jetelarstvi. [Vyd. 1.] Praha, Statni zemedelske nakl., 1956. 470 p. [Practical grass and clover growing. 1st ed.]

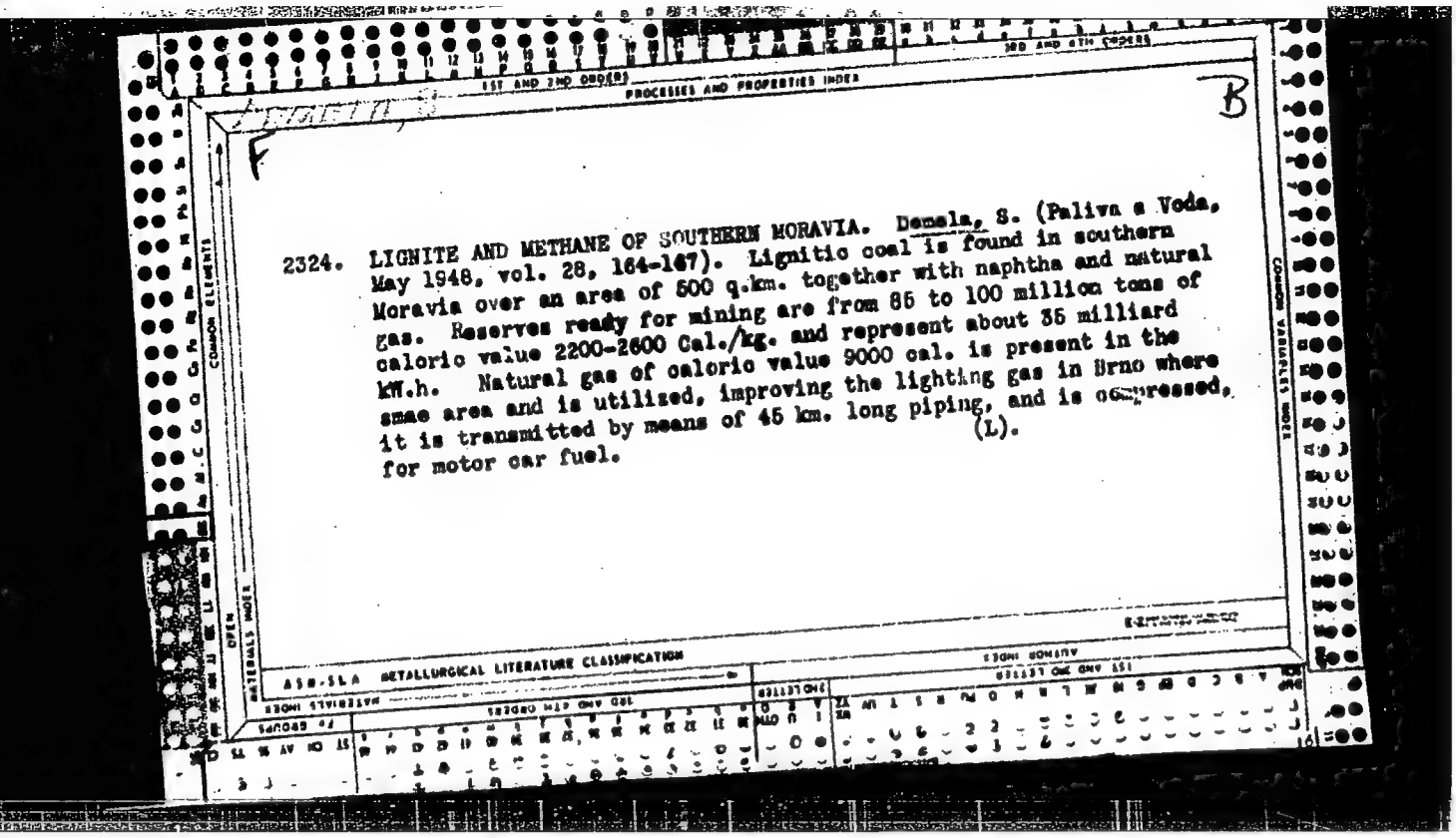
DA Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

DEMELA, J.

Mechanization of grass and clover cultivation for seed. p.89.
(Beseda Venkovske Rodiny, Vol. 30, No. 2, Apr. 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessiors (EEAL) LC. Vol. 6, No. 9, Sept. 1957. Uncl.



2324. LIGNITE AND METHANE OF SOUTHERN MORAVIA. Demela, S. (Paliva a Voda, May 1948, vol. 28, 164-167). Lignitic coal is found in southern Moravia over an area of 500 q.km. together with naphtha and natural gas. Reserves ready for mining are from 85 to 100 million tons of calorie value 2200-2600 Cal./kg. and represent about 35 milliard kW.h. Natural gas of calorie value 9000 cal. is present in the same area and is utilized, improving the lighting gas in Brno where it is transmitted by means of 45 km. long piping, and is compressed, for motor car fuel. (L).

MALEK, P.; DEMELOVA, J.; ZASTAVA, V.; KOLC, J.

Problems of tetracycline antibiotics in the prevention and treatment of experimental gas gangrene. Rozhl. chir. 42 no.3: 196-200 Mr '63.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel prof. dr. B. Spacek, DrSc. Ustav ser a ockovacich latek v Praze, reditel dr. J. Malek.
(GAS GANGRENE) (CHLORTETRACYCLINE)
(ISCHEMIA) (MUSCLES) (WOUNDS AND INJURIES)

MAZACEK, M., Dr.; HOUBA, V., Dr.; DEMELOVA, M., Dr.; za technicke spoluprace J. Casneho, J. Machackove, J. Perlika.

Determination of protective effect of gamma globulin normal and anti-pertussis gamma globulin in model infections with Hemophilus pertussis in animals. Cesk. pediat. 11 no.9:669-674 Sept 56.

1. Vyzkumny ustav imunologicky, Praha.
(WHOOPING COUGH, exper.
determ. of protective eff. of normal whooping cough immune & antipertussis gamma globulin (Cz))
(GAMMA GLOBULIN
protective eff. of normal and whooping cough immune gamma globulin in exper whooping cough (Cz))

DEMELOVA, M.; MALEK, J.; JOHANOVSKY, J.; HAZA, J.; BLASKO, B.; FRANCOVA, D.; MAZACEK, M.

Experimental study of gas gangrene mono- and trivaccines. J. hyg. epidem., Praha 5 no.4:470-478 '61.

1. Institute of Sera and Vaccines, Praha.

(GAS GANGRENE immunol) (VACCINATION exper)

DEMELOVA, M.; FRANCOVA, D.

The effect of staphylococcal antitoxic sera on the course of staphylococcal infection. Cesk. epidem. 11 no.1:41-45 Ja '62.

1. Ustav ser a ockovacich latek, Praha.
(STAPHYLOCOCCAL INFECTIONS exper.) (IMMUNE SERUMS pharmacology)

DEMELOVA, M.; SOUCKOVA, J.

The persistence of the lethal effect in toxoids of some staphylococcal strains. 1st communication. J. hyg. epidem. 7 no.2:195-204 '63.

1. Institute of Sera and Vaccines, Prague.
(TOXINS AND ANTITOXINS) (STAPHYLOCOCCUS)

DEMELOVA, M.; VEPREKOVA, A.

Persistence of lethal effect in toxoids of some staphylococcal strains. II. Demonstration of the lethal factor in toxins and toxoids of the strain 02 prepared by submerse cultivation. J. hyg. epidem. (Praha) 8 no.4:442-449 '64.

1. Institute of Sera and Vaccines, Prague.

DEMENDY, Miklos

New development in the field of anticorrosion dyeing. Gepgyartastechn 1 no.4:153-154 Jl '61.

DEMENDY, Miklos

Protection of the Erzsebet Bridge against corrosion. Musz elet 18 no.24:11 21 N '63.

GOTLOBER, V.; DEMENEV, A.

Engineer's work and technological progress. Sots.trud 5 no.8: 53-59 Ag '60. (MIRA 13:11)
(Sverdlovsk Province--Industrial management)

DEMENEV, A.; LEMELEV, S.

[Technological progress is the basis for increasing labor productivity] Tekhnicheskii progress osnova pod"ema proizvoditel'nosti truda. Sverdlovsk, Sverdlovskoe knizhnoe izdvo, 1959. 53 p. (MIRA 17:3)

D.[illegible]NEV, A.I.

In the Sverdlovsk Economic Council. Biul.tekh.-ekon.inform. no.1: 78-79 '61. (MIRA 14:2)
(Sverdlovsk Province--Economic councils)

DEMENEV, Anatoliy Iosifovich; ADAMOVA, L., red.; PAL'MINA, N., tekhn. red.

[Indestructible foundation of communism]Nesokrushimyi fundament kommunizma. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo, 1962. 61 p. (MIRA 15:11)

(Russia--Industries)

PA 240T1

DEMENEV, I. V.

USSR/Chemistry - Titanium Dec 52

"The Structure of the Double Sulfate of Titanium and Potassium," I. V. Demenev, N. N. Buinov and V. M. Polyakova

"DAN SSSR" Vol 87, No 6, pp 965, 966

The structure of $2K_2SO_4 \cdot 2TiOSO_4 \cdot 5H_2O$ was investigated with an electron microscope. It was found that it consists of crystals having a size of 10-30 Å. These crystals form aggregates. Submitted by Acad I. P. Bardin 23 Oct 52.

240T1

DEMENTEV, N.

SUBJECT: USSR/Activities of the Ural Academy of Sciences 25-5-16/35

AUTHOR: Dementev, N., Chairman of the Presidium of the Ural Branch of the Academy of Sciences (УФАН - UFAN)

TITLE: Scientists Help the Ural Industry (Uchenyye - promyshlennosti Urala)

PERIODICAL: Nauka i Zhizn' - May 1957, No 5, p 35 (USSR)

ABSTRACT: The main objective of the scientists of the Ural Academy of Sciences is the solving of problems connected with the complex utilization of natural resources of the Urals. For example the Geological Institute has worked out new methods of neutronic gamma and gamma-gamma core sampling for prospecting oil, iron ore, and coal. The Institute of Metallurgy has developed the autocatalytic theory of reducing metals from oxides and sulfides. The Institute of Metals has produced a number of new defectoscopes for controling the quality of products made by the metallurgical and machine-building industry. One of them is intended for checking the quality of turbo-generator shafts. This automatic apparatus magnetizes the object within 1/200 of a second. The Academy em-

Card 1/2

DEMENEV, N.

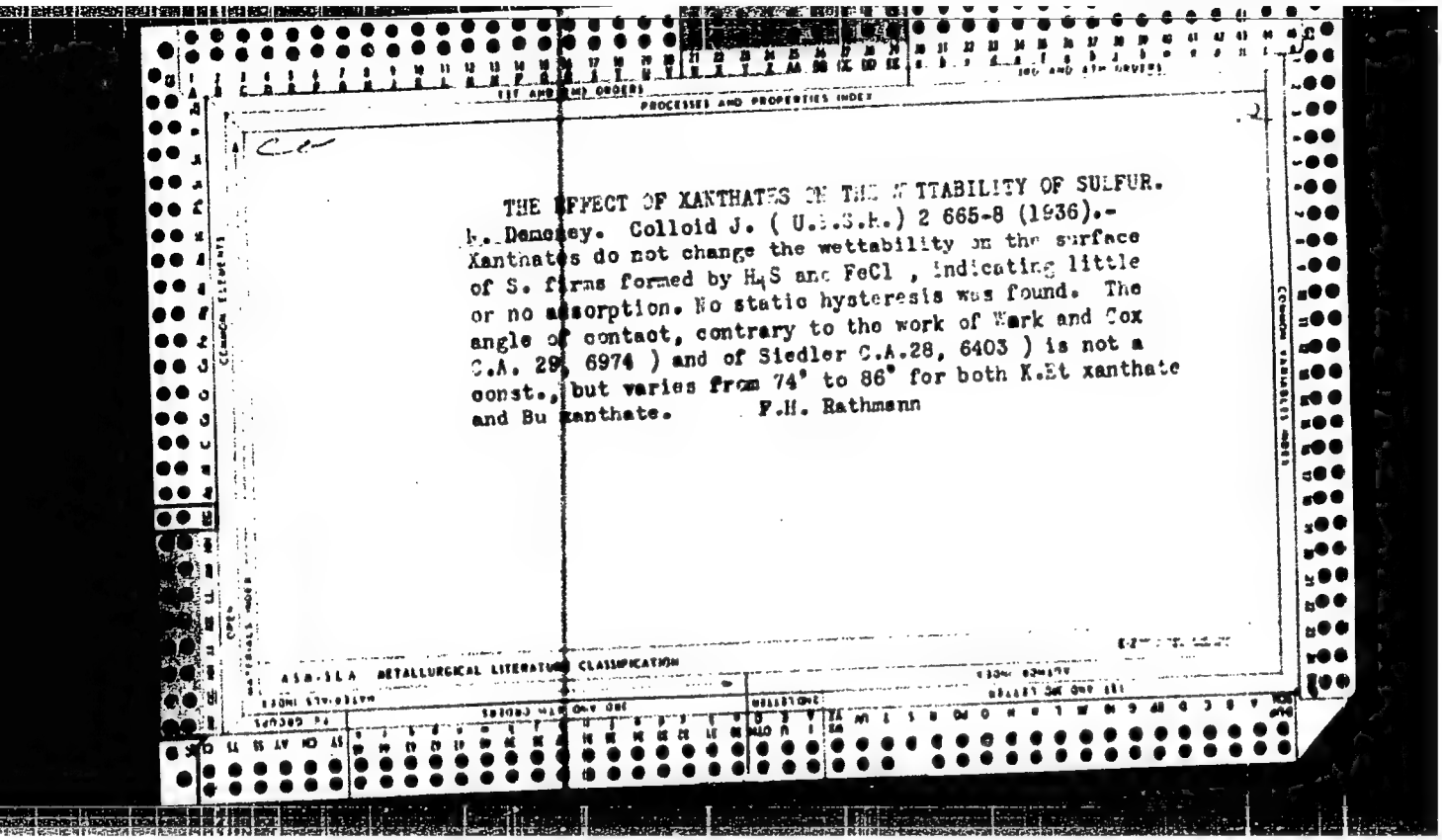
CA

PROCESSES AND PROPERTIES INDEX

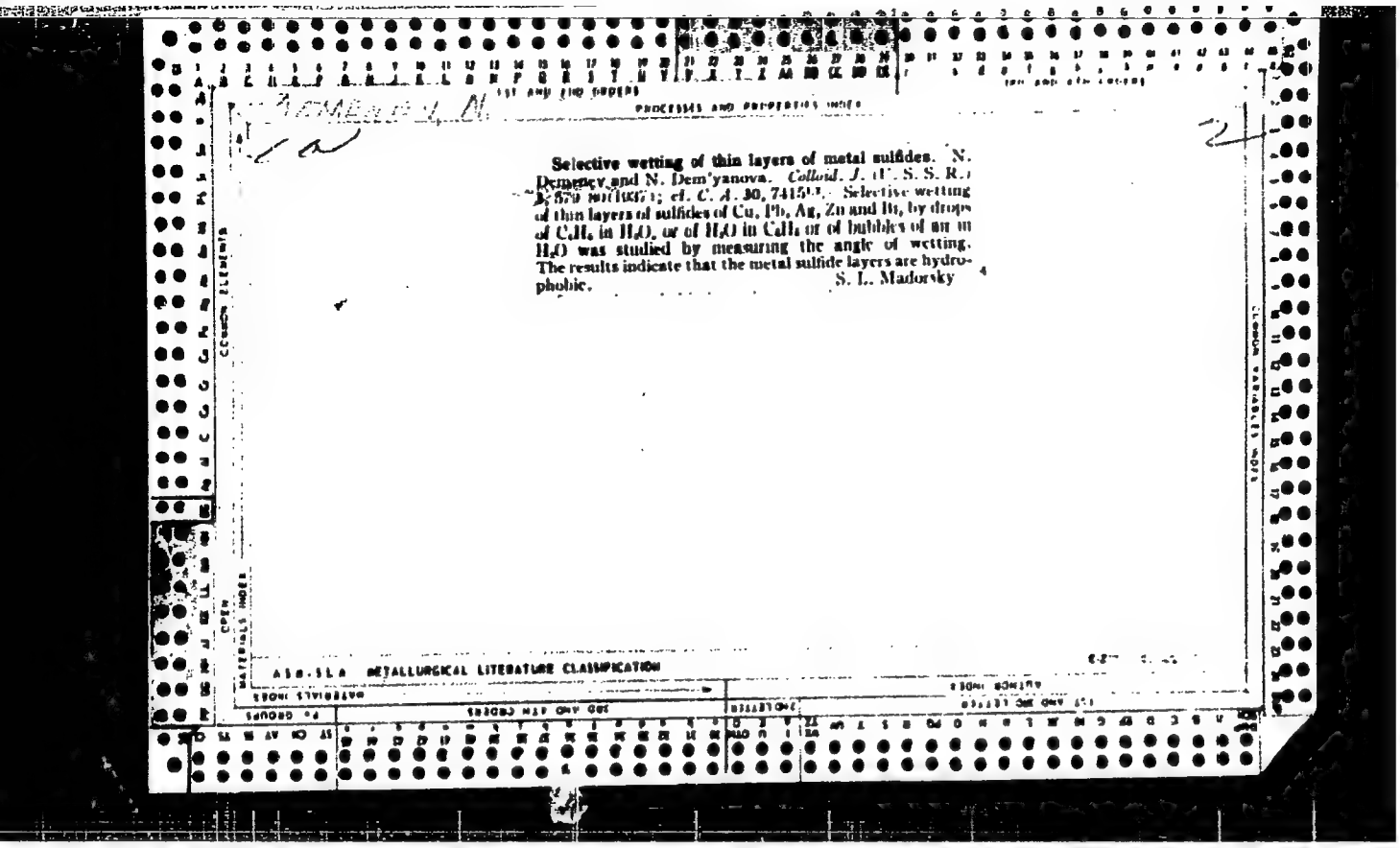
Experimental studies of laminar systems. VII. Wetting phenomena on surface films of metallic sulfides. S. G. Mokrushin and N. Demenev. *J. Phys. Chem.* (U. S. S. R.) 6, 1066-70(1935); cf. *C. A.* 30, 7415[4]. 66[8].—The angles of contact for various sulfide films were detd. photomicrographically as CuS, 82°; PbS, 78°; ...S, 77°; Bi_2S_3, 72°; ZnS, 70°; S, 86°. From these expts. and those on the effects of various impurities it is concluded that the wetting of the films is a temporary phenomenon that cannot be explained by orientation of the mols. only, but is due also to adsorption of ions from the soln. Sulfide films adsorb anions preferentially.

F. H. Rathmann

ASR-SLA METALLURGICAL LITERATURE CLASSIFICATION

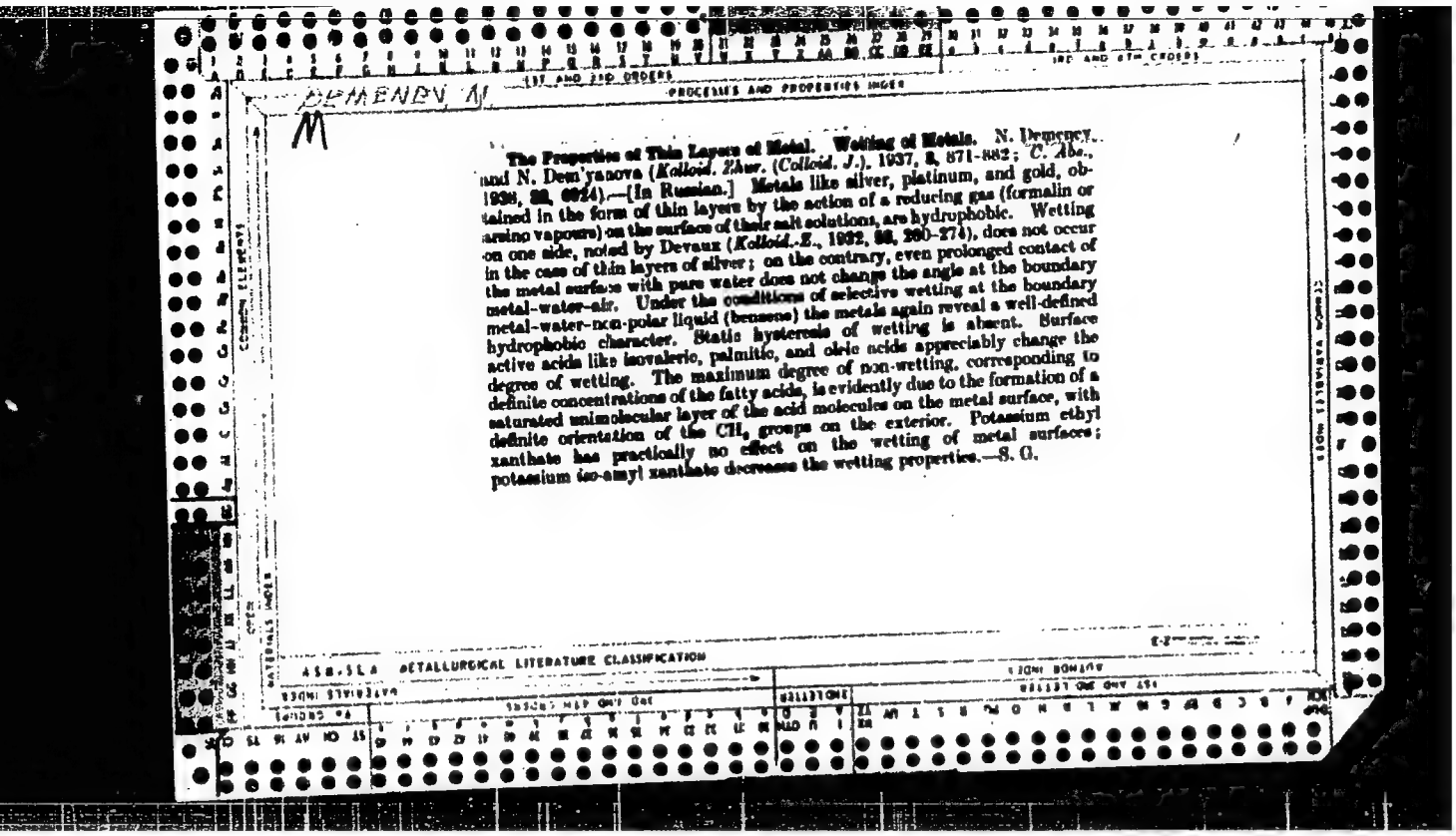


THE EFFECT OF XANTHATES ON THE WETTABILITY OF SULFUR.
L. Demoisey. Colloid J. (U.S.S.R.) 2 665-8 (1936).-
Xanthates do not change the wettability on the surface
of S. films formed by H_2S and FeCl , indicating little
or no adsorption. No static hysteresis was found. The
angle of contact, contrary to the work of Wark and Cox
C.A. 29, 6974) and of Siedler C.A.28, 6403) is not a
const., but varies from 74° to 86° for both K.Et xanthate
and Bu xanthate. F.H. Rathmann



Selective wetting of thin layers of metal sulfides. N. Demgev and N. Dem'yanova. *Colloid. J. (U. S. S. R.)* 3, 559 [1937]; *cf. C. A.* 30, 7415[3]. Selective wetting of thin layers of sulfides of Cu, Pb, Ag, Zn and Bi, by drops of C_6H_6 in H_2O, or of H_2O in C_6H_6 or of bubbles of air in H_2O was studied by measuring the angle of wetting. The results indicate that the metal sulfide layers are hydrophobic. S. L. Madorsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

The Properties of Thin Layers of Metal. Wetting of Metals. N. Demgeev and N. Dem'yanova (*Kolloid. Zhur. (Colloid. J.)*, 1937, **3**, 871-882; *C. Abs.*, 1938, **32**, 6924).—[In Russian.] Metals like silver, platinum, and gold, obtained in the form of thin layers by the action of a reducing gas (formalin or arsino vapours) on the surface of their salt solutions, are hydrophobic. Wetting on one side, noted by Devaux (*Kolloid. Z.*, 1932, **58**, 260–274), does not occur in the case of thin layers of silver; on the contrary, even prolonged contact of the metal surface with pure water does not change the angle at the boundary metal-water-air. Under the conditions of selective wetting at the boundary metal-water-non-polar liquid (benzene) the metals again reveal a well-defined hydrophobic character. Static hysteresis of wetting is absent. Surface active acids like isovaleric, palmitic, and oleic acids appreciably change the degree of wetting. The maximum degree of non-wetting, corresponding to definite concentrations of the fatty acids, is evidently due to the formation of a saturated unimolecular layer of the acid molecules on the metal surface, with definite orientation of the CH_3 groups on the exterior. Potassium ethyl xanthate has practically no effect on the wetting of metal surfaces; potassium iso-amyl xanthate decreases the wetting properties.—S. G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

DERGUNOV, N.V.; MOKHOSHIN, S.G., doktor khim. nauk, otvetstvennyy red.

[Surface metal sols and jels] Poverkhnostnye zoli i geli metallov. Sverdlovsk, Izd-vo Ural'skogo fil. akad. nauk SSSR. 1948. 59 p. (Akademiia nauk SSSR. Ural'skii filial, Sverdlovsk. Institut khimii i metallurgii. Trudy, no.1). (MIRA 11:4)
(Metallography) (Surface chemistry) (Colloids)

Investigation of the Structures of Metallic Films Formed on the Surface of Aqueous Solutions of Metal Salts by the Action of Reducing Gases. I.--The Structure of Platinum Films. N. N. Buinov, N. V. Domenev, A. S. Shur, and G. G. Fedorova (Kolloid. Zhur., 1949, 11, (5), 289-298; C. Abs., 1950, 44, 901).--(In Russian). Platinum films were prepared on water by passing hydrogen over the surface of platinum salt solutions, transferred on to colloidion films, and examined in an electron microscope. The results, together with earlier results obtained by using X-ray, electron diffraction, and kinetic methods (cf. Domenev, Trudy Inst. Khim. i Met., Akad. Nauk. S.S.S.R., Ural. Filial, 1948, (1)) show that the films start as separate crystals smaller than the limit of the electron microscope (30 Å.). Later these crystals combine to aggregates, 0·5-1 μ in size, which have no definite shape but show preferred angles of 90° and 120°; this means that coagulation is anisotropic. The aggregates not only lie in the surface but form also under the surface. When the average thickness of the film is 120 Å., the aggregates form branched chains; and at greater thicknesses the film is similar to a platinum sponge.

DEMENEV, N. V.

PA 52/49T100

USSR/Physics May 49
Electron Microscopy
Platinum

"Electron-Microscope Investigation of the Structure of Platinum Films on the Surface of Water Solutions of Metal Salts by the Action of Gas Regenerators," N. N. Buynov, N. V. Demenev, A. S. Shur, G. G. Fedorova, Inst of Chem and Metal, Inst of Phys of Metals, Ural Affiliate, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXVI, No 2

Presents results of an investigation of platinum

52/49T100

USSR/Physics (Contd) May 49

films produced on surfaces of aqueous po-
chloroplatinate solutions by acti-
on the surface. Used an R
electron microscope
stereoscopic -
initia

S/0048/64/0
n some compounds [Report, Seventh Confe-
van 23 Sep to 1 Oct 1963]
cheskaya, v.28, no.5, 1964, 825-829
ilicon dioxide,silicon carbide, carbon chemi-
and $K\beta_{1,x}$ lines of silicon were observed in
both pure (resistivity 0.5 ohm cm). The investi-
the true shape of the $K\beta_x$ band, for which widely
ed (J.Farineau,Ann.Phys.10,20,1938; Ya.M.Fogel',
, and to determine the effect of chemical bonding
obtained by reflection from the (10$\bar{1}$0) planes of a
tal. The resolving power was 16 000. The x-ray tube
, and the samples were at temperatures between 50 and
was observed with 3.8 kV on the x-ray tube in order to

M

Electron-Microscopical Investigation of the Structure of Gold Foils Obtained on the Surface of Aqueous Solutions of a Salt of the Metal by the Action of Reducing Gases. N. V. Demenev, N. N. Bulnov, and M. I. Milyutina (*Doklady Akad. Nauk S.S.S.R.*, 1949, **68**, (4), 721–723).—[In Russian]. The gold foils were selected from a preliminary X-ray examination which showed that crystal dimensions of the order 150 Å. could be expected. The foils were obtained on the surface of dil. auric chloride solutions by reduction with hydrogen gas and arsine. The influence of the rate of formation of the foils on their structure was investigated by varying the velocity and pressure of the current of reducing gas, and the foil thickness was determined by weighing. The investigation revealed that the foils were extremely porous and consisted of individual crystals and three-dimensional aggregates. In such foils, of an average thickness <100 Å., the shape and dimensions of individual crystallites can be conveniently studied. The most frequent shapes are hexagons, pentagons, and triangles, rarely rhombs. The first three of these are projections of the octahedral, cubic-octahedral, and pyramid-shaped gold crystallites, of which the last are undeveloped octahedral forms, or cubes. The hexagonal, pentagonal, and triangular shapes can only be observed when the crystallites are so oriented that one of the octahedral faces lies in the surface of the solution. Other forms of the crystallites are also possible. The average size of the particles was determined from the distribution curve of the crystallites, and by electronography. It was found that the size of the crystallites increases with reduction of the velocity of the current of reducing gas. The maximum for a foil obtained in 16 hr. and having an average thickness of 25 Å. was 140 Å., and for a foil obtained in 15 min. of an average thickness 40 Å., 110 Å.—B. P. K.

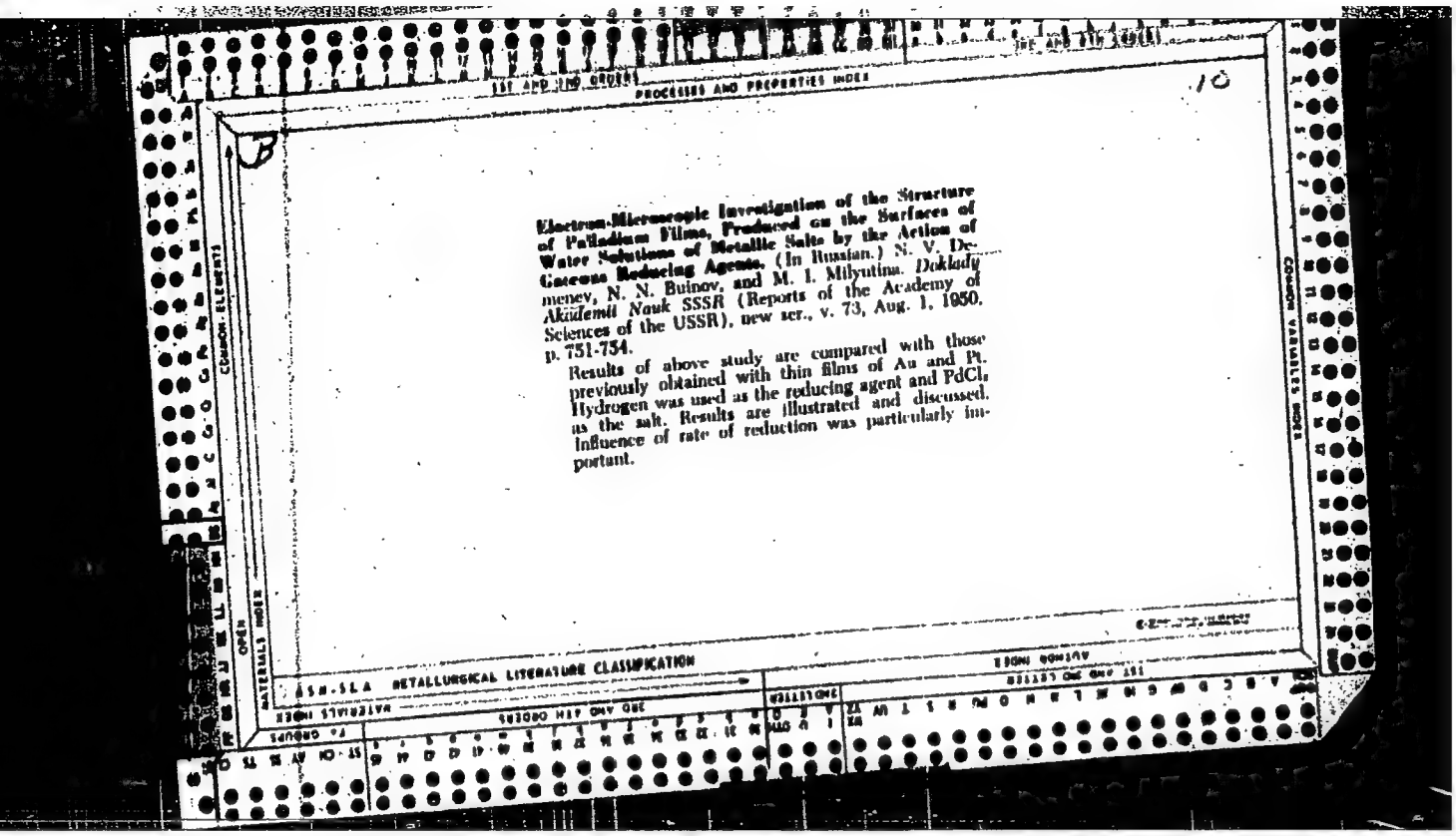
Inst. Chem. + Metallurgy and Inst. of Metals, Ural Affil., AS
Oct. 1950

CA

2

Structure of the metal films prepared on the surfaces of aqueous solutions of metal salts by the action of reducing gases. II. Structure of gold films. N. V. Demenev, N. N. Ilukhov, and M. I. Mityutina (Ural Branch, Acad. Sci. U.S.S.R.). *Kolloid. Zhur.* 12, 252-6(1950); cf. *C.A.* 43, 6026h; 44, 902b.—Au films produced in the surface of a $AuCl_3$ soln. by H or AsH_3 consist of aggregates of crystals sepd. by empty spaces. The most frequent size of the crystals was, e.g., 110-140 A. in films whose av. thickness (detd. by weighing) was 25-40 A. Films produced rapidly (e.g. 140 A. in 1 min.) have crystals of approx. identical size, combined into dendrites, whereas films produced slowly (e.g. 100 A. in 3 hrs.) usually consist of (often hexagonal) clusters of relatively large crystals surrounding a small crystal. These results were obtained with an electron microscope.

J. J. Bikerman



Electron-Microscopic Investigation of the Structure of Palladium Films, Produced on the Surfaces of Water Solutions of Metallic Salts by the Action of Gaseous Reducing Agents. (In Russian.) N. V. Demenev, N. N. Buinov, and M. I. Milyutina. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 73, Aug. 1, 1950. p. 751-754.

Results of above study are compared with those previously obtained with thin films of Au and Pt. Hydrogen was used as the reducing agent and $PdCl_2$ as the salt. Results are illustrated and discussed. Influence of rate of reduction was particularly important.

USSR/Chemistry - Catalytic Hydrogenation Feb 51

"Catalytic Activity of Platinum Films Produced on Surfaces of Aqueous Solutions of Platinum Salts by Action of a Reducing Gaseous Atmosphere," A. S. Shur, N. V. Demenev, Inst. Chem. and Metallurgy, Ural Affiliate, Acad. Sci. USSR, Sverdlovsk, (-c/1951-)

"Zhur. Fiz. Khim., Vol XXV, No 2, pp 136-142

Hydrogenated ethylene by reaction $C_2H_4 + H_2$ = C_2H_6 over Pt film catalyst produced on surface of aq soln of Pt salts by reduction with H_2. Found optimum film thickness. Studied reaction

184T26

USSR/Chemistry - Catalytic Hydrogenation Feb 51 (Contd)

Kinetics, including variation of catalytic activity with temp and decrease of activity during reaction due to change in cryst structure (recrystn).

184T26

DEMENEV, N. V.

1. DEMENEV, N. V. Prof.

2. USSR (600)

4. Technology

7. Creative cooperation with production. Priroda 41 no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. DEMENEV, N. V., SHAROVA, A. K., POLYAKOVA, V. M.

2. USSR (600)

4. Sulfates

7. Reaction of titanium sulfate with potassium sulfate.
Dokl. AN SSSR 87 No. 5, 1952

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. DEMENEV, N. V., BUYNOV, N. N., POLYAKOV, V. M.

2. USSR (600)

4. Sulfates

7. Structure of the double salt of titanium and potassium sulfates.
Dokl. AN SSSR 87 No. 6, 1952

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

AUTHORS: Demenev, N. V., Milyutina, M.I., Sharova, A. K. and Shtin, A.P.

TITLE: Preparation of an Acid Sulphate of Trivalent Titanium. (O poluchenii kisloy sernokisloy soli trekhvalentnogo titana).

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry, Vol.II, No.2, pp.465-467 (U.S.S.R.) 1956

ABSTRACT: The formation of a violet-coloured crystalline precipitate in quantities strongly dependent on sulphuric-acid concentration was observed when working with reduced acid solutions of titanium. To determine the composition of the precipitate and elucidate the conditions leading to its formation was the object of the work described. The solutions used contained either 15.25, 25.0 or 37.5 g/litre of TiO_2 initially, and the final contents of this and of sulphuric acid were determined. The results are tabulated and indicate that with 700 - 100 g/litre of H_2SO_4 precipitation occurs to 90-97%. Analysis of the salt prepared with careful exclusion of oxidation gave the composition $Ti_2(SO_4).H_2SO_4.8H_2O$. It is a crystalline powder soluble in water, dilute sulphuric and hydrochloric and concentrated sulphuric acids. It is recommended as a source of trivalent titanium for analytical work. There are three references, one of which is Russian. 1 Table.

Received April 26, 1956.

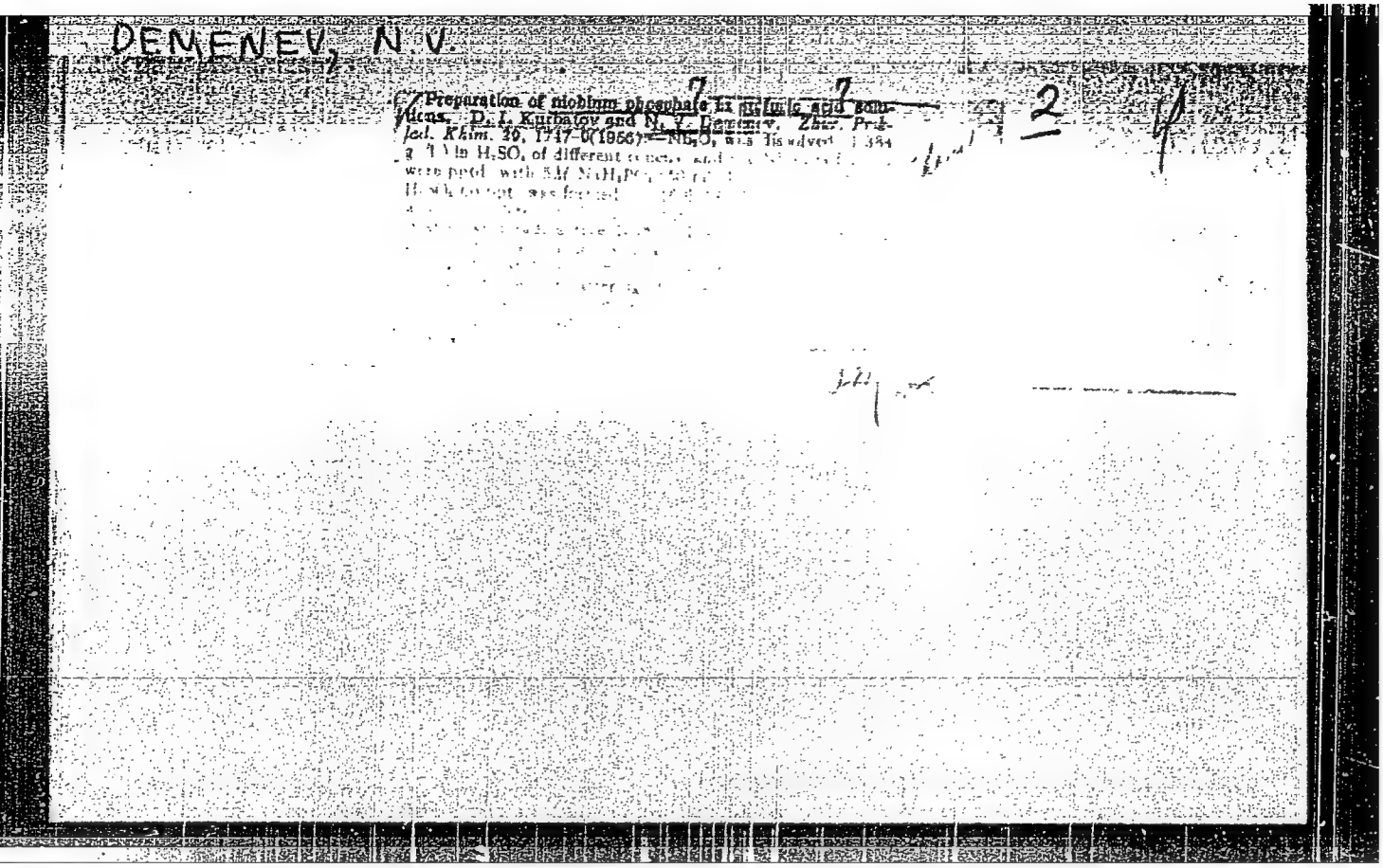
Card 1/1

USSR/Inorganic Chemistry - Complex Compounds. C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30286

solutions containing from 15 to 9.7 gram equivalent I per liter, after calcination at 1000° had the composition $Nb_2O_5 \cdot P_2O_5$, while that obtained from solutions having a lower content of I had the composition $2Nb_2O_5 \cdot P_2O_5$. Excess precipitating agent does not affect the composition of the precipitate.

Card 2/2



DEMENEV, N. V.

Preparation of niobium phosphate [illegible] and some [illegible]. D. I. Kurbatov and N. V. Demenev. Zhur. Prik. Khim. 29, 1717-9(1956).—Nb_2O_5, was dissolved [illegible] in H_2SO_4 of different [illegible] were ppd. with 5M NaH_2PO_4 [illegible] H content was found [illegible]

DEMENEV, N.V.; MILYUTINA, M.I.; SHAROVA, A.K.; SHTIN, A.P.

Preparation of trivalent titanium bisulfate. Zhur.neorg.khim. 2 no.2:465-467 F '57. (MLRA 10:5)
(Titanium sulfates)

SOV/78-4-4-27/44

5(4)

AUTHORS: Yatsenko, S. P., Demenev, N. V.

TITLE: Investigation of the Precipitation of Gallium Hydroxide From Alkaline Solutions During Carbonization (Issledovaniye osazhdeniya gidrata okisi galliya iz shchelochnykh rastvorov pri karbonizatsii)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 869-876 (USSR)

ABSTRACT: The authors investigated the variation of the pH value of alkaline gallate solutions during the precipitation of gallium hydroxide with carbonic acid at 60°. Gallium hydroxide precipitated from an alkaline gallate solution according to the following reaction:

$$2GaO_2^- + 2H_3O^+ \rightarrow Ga_2O_3 \cdot 3H_2O \qquad (1)$$

The reaction rate is expressed by the following equation:

$$-\frac{dc_{GaO_2^-}}{dt} = K' \cdot c^2_{GaO_2^-} \cdot c^2_{H_3O^+} \qquad (2)$$

At a constant pH value of the solution the equation (2) adopts

Card 1/3

Investigation of the Precipitation of Gallic Hydroxide From Alkaline Solutions During Carbonization

this form: $$-\frac{dc_{GaO_2^-}}{dt} = (K' \cdot c^2_{H_3O^+})c^2_{GaO_2^-} = K.c^2_{GaO_2^-} \quad (3)$$

The solubility of gallium hydroxide in a sodium gallate solution of an ionic strength of 1.1-1.2 at a pH value of 9.45-9.65 is intensified with increasing sodium carbonate content. The dependence of the activity coefficient of bicarbonate and carbonate ions on the ionic strength of the solution was investigated at 25°; the results are given in figure 1. With the introduction of carbon dioxide into the gallate solution only the pH value decreases at the beginning. At a certain pH value the hitherto clear solution begins to grow turbid. This pH value during the occurrence of turbidity is a linear function of the absolute temperature, which in the temperature range of 20-60° follows the empirical equation:

$$pH = \frac{2524}{T} + 2.32 \quad (16)$$

Card 2/3 The course of titration of the gallate solution with carbonic

acid is represented in figure 4. Figure 5 contains the precipitation of gallium oxide hydrate from the gallate solution at a constant pH value. The results of chemical analysis of gallium oxide hydrate obtained from gallate solutions with carbonic acid are given in a table. Another table shows the reproducibility of the precipitation of gallium oxide hydrate; a third table gives the differences between the experimental values of gallate ion concentration as well as the values computed from the amount of absorbed CO_2. There are 6 figures, 3 tables, and 22 references, 8 of which are Soviet.

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR Institut khimii (Ural Branch of the Academy of Sciences USSR, Chemical Institute)

SUBMITTED: January 30, 1958

SOV/78-4-6-37/44

5(2)
AUTHORS: Yatsenko, S. P., Demenev, N. V.

TITLE: Investigation of the System Gallate - Carbon Dioxide - Water (Issledovaniye sistemy gallat-uglekislota-voda)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1437 - 1442 (USSR)

ABSTRACT: The solubility in the systems Ga_2O_3-Na_2O-H_2O and Ga_2O_3-Na_2O-H_2O was investigated at room temperature ($20\pm0.5^{\circ}$). The system Ga_2O_3-Na_2O-H_2O was investigated in the concentration region of 15.5 - 155 g/l sodium oxide. The results of the solubility determinations are given in table 1 and in figures 2 and 3. The solid phase in the system has the composition $Ga_2O_3 \cdot 3H_2O$.

The solubility of gallium oxide trihydrate was investigated in soda and the results are given in figure 4. The concentration equilibrium in the system gallate - carbon dioxide - water was investigated at room temperature and the results are summarized in tables 2 and 3. The solid phase of this system has the composition $NaGa(OH)_2CO_3 \cdot H_2O$. The radiographs of gallium

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oxide trihydrate and basic gallium carbonates were taken and compared with the corresponding aluminum compounds (Fig 5 a - e). The conditions for the production of double-basic sodium-gallium carbonate were detected. The sodium gallate solution is added at room temperature to the sodium bicarbonate solution in order to produce basic sodium-gallium carbonate in crystalline state. The formation of basic gallium carbonate proceeds probably according to the reaction: $NaGa(OH)_4+2NaHCO_3 = NaGa(OH)_2CO_3.H_2O+Na_2CO_3+H_2O$. A volumetric method for the determination of the free alkalis and bicarbonate ions in gallate-soda solutions was suggested. There are 5 figures, 3 tables, and 8 references, 2 of which are Soviet.

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR institut khimii (Ural Branch of the Academy of Sciences, USSR, Institute of Chemistry)

SUBMITTED: March 29, 1958

DEMENEV, N., prof.

Leading figure in science. NTO 2 no.4:5-6 Ap '60.
(MIRA 13:6)

1. Predsedatel' Sverdlovskogo oblastnogo soveta nauchno-tekhnicheskikh obshchestv, predsedatel' prezidiuma Ural'skogo filiala AN SSSR, Sverdlovsk.
(Lenin, Vladimir Il'ich, 1870-1924)

YATSENKO, S.P.; DEMENEV, N.V.

Isomorphous coprecipitation of gallium with aluminum hydroxide from alkaline solutions. Zhur.neorg.khim. 5 no.7:1618-1625 Jl '60. (MIRA 13:7)

1. Ural'skiy filial Akademii nauk SSSR. Institut khimii. Laboratoriya redkikh elementov.
(Gallium) (Aluminum hydroxide)

YATSENKO, S.P.; IMMENEV, N.V.

Coprecipitation of gallium with aluminum hydroxide during the carbonization of an alkaline solution. Zhur.neorg. khim. 5 no.7:1626-1630 Jl '60. (MIRA 13:7)

1. Ural'skiy filial Akademii nauk SSSR. Institut khimii. Laboratoriya redkikh elementov.
(Gallium) (Aluminum hydroxide)

S/598/60/000/004/010/020
D217/D302

AUTHORS: Sharova, A.K., Demenev, N.V., Fotiyev, A.A. and Ivakin, A.A.

TITLE: Production of titanium dioxide from ilmenite concentrates by sodium sulphate melting

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. No. 4. Moscow, 1960. Metallurgiya titana, 95-101

TEXT: In all experiments, ilmenite concentrate from the Irshinsk deposits, of 0.056 mm mesh size were used. The chemical composition of the concentrate was as follows: 51.46% TiO_2, 33.78% Fe, 1.04% Al_2O_3, 1.56% SiO_2, 0.86% MgO, 0.26% V_2O_5, 0.42% MnO and traces of CaO. Wood charcoal with an ash content of approximately 2% and 0.4 mm mesh size was used as the reducing agent. The main reagent, Na_2SO_4, is a natural product. The charges of ilmenite concentrate, Na_2SO_4 and wood charcoal were

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thoroughly mixed and transferred to porcelain or graphite crucibles. Charges weighing 200-300 grams were used for the experiments. The mixtures were melted in a silite furnace. It was assumed that the melting was complete at the moment when gases ceased to be evolved from the melt. Each crucible was then withdrawn from the furnace and the melt cast in a graphite mould. After cooling, the melt was ground and subjected to leaching with water and acid. The residue was calcined and analyzed for its iron and titanium dioxide content. When ilmenite concentrates are melted with Na_2SO_4, the following reaction occurs: $FeTiO_3 + Na_2SO_4 + 2C = FeS + Na_2TiO_3 + 2CO_2$. The reaction intensity depends among other factors on the method of melting and the surface area of contact of the various phases. In order to find the conditions under which maximum extraction of iron in aqueous leaching is attained, the following factors were studied: Volume ratio between solid and liquid, time of stirring, temperature of leaching and degree of grinding of the melts. In all experiments, leaching was carried out at 25°C for 15 minutes. The

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particle size of the melt was 1.6-0.85 mm. It was found that complete extraction of iron from the melt can be attained only when the sodium sulphate and carbon contents in the charge are sufficiently high. The optimum ratio between concentrate, sodium sulphate and wood charcoal in the charge (in parts-by-weight) is 1:2:0.6. At 1000-1050°C, complete decomposition of the ilmenite concentrate occurs (up to 98 or 99%). No melting of the charge occurs up to 900°C. At higher temperatures, intense melting occurs with much evolution of gas and a homogeneous fluid melt is formed. Extraction of iron sulphide into the solution depends on the time of leaching and the degree of grinding of the melt. An increase in the time of leaching from 15 to 60-90 minutes decreases the amount of iron extracted into the solution owing to the transformation of the sulphide from a soluble form into a gel. The optimum conditions for extracting iron sulphide in the aqueous solution (up to 80 or 85%) are as follows: ratio solid: liquid = 1:10, solution temperature = 70-80°C, degree of comminution of the melt = 2-3 mm and time of leaching = 15-20 minutes. As a result of treating the residue, titanium dioxide

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is obtained in a form suitable for metallurgical purposes and for producing titanium tetrachloride. There are 5 figures, 1 table and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: J.C. Witt, Am. Chem. Soc., 43, no. 4, 734, 1921.

S/200/62/000/004/002/002
D204/D307

AUTHORS: Bamburov, V.G., Demenev, N.V., and Polyakova, V.M.

TITLE: Investigation of the ternary system TiF_4 - KF - H_2O

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye, Izvestiya, no. 4, 1962, 73 - 80

TEXT: The above system was investigated, at 20 ± 0.1°C, since a study of the K fluorotitanates is important in the technological separation of Ti, Nb and Zr and in the processing of lanthanon ore. Water and solid KF were added to a fixed amount of aqueous TiF_4 so that the TiF_4 : KF ratio varied from 0.1 to 9 by weight, and the system was allowed to stand for 0.5 - 1 hr. The filtrate was then analyzed chemically and the solid phases by physico-chemical methods. It was found that $K_2TiF_6 \cdot H_2O$ crystallized in the cubic system from solutions containing >3 % KF and also, in irregular plates, when the TiF_4 : KF ratio was 1.55 - 2.42. Monoclinic irregular lamellas of $K_2TiF_6.2H_2O$ were formed from solutions containing up to 3 % KF

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and mixtures equivalent to TiF_4 - 2KF gave $2K_2TiF_6 \cdot 3H_2O$ in the form of hexagonal prisms. Increasing TiF_4 : KF to >2.5 yielded K_2TiF_6. The solubilities of $K_2TiF_6 \cdot H_2O$, $2K_2TiF_6 \cdot 3H_2O$ and $K_2TiF_6 \cdot 2H_2O$ in water at 20°C were determined as 1.19, 1.21 and 1.25 % respectively. The hydrated complexes were then heated from 20° to 720°C at a rate $\geq 8°$ per minute to determine their thermal stabilities. It was found that above 420°C the hydrates underwent hydrolysis and transformed into cubic K_2TiOF_4. There are 5 figures and 2 tables.

ASSOCIATION: UFAN SSSR (UFAS USSR)

SUBMITTED: March 15, 1961

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BAMBUROV, B.G.; DEMENEV, N.V.; POLYAKOVA, V.M.

Studying the solubility in the system KF - ZrF_4 - H_2O at 20°C.
Izv. Sib. otd. AN SSSR no.5:70-75 '62.
(MIRA 18:2)

1. Ural'skiy filial AN SSSR, Sverdlovsk.

DEMENEV, P.V.

DEMENEV P.V.

KARGIN, V.A.

5(3) p4 PHASE I BOOK EXPLOITATION SOV/1589

Akademiya nauk SSSR.

Khimiya bol'shikh molekul; sbornik statey (Chemistry of Large Molecules; Collection of Articles) Moscow, Izd-vo AN SSSR, 1958. 299 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) 30,000 copies printed.

Compiler: G.V. Shklovskiy; Resp. Ed.: A.V. Topchiyev, Academician; Ed. of Publishing House: V.A. Boyarskiy; Tech. Ed.: I.N. Guseva.

PURPOSE: This book is intended for a wide circle of readers including those who have had no training in chemistry. It can also serve as a manual for propagandists, teachers, and journalists.

Chemistry of Large Molecules (Cont.) SOV/1589

COVERAGE: This collection of articles reflects the trend for the future development of the Soviet chemical industry as indicated by the May plenary session of the Central Committee of the Communist Party within the framework of the new Seven Year Plan. These articles were published in newspapers and journals. The authors, scientists and industry workers, developed the theme of accelerated development of the chemical industries, and sciences, with stress on the manufacture of synthetic fibers, plastics, and other materials. Some of the articles were abridged, revised, or enlarged. The articles were selected so as to give an adequate survey of the chemistry and technology of high-molecular-weight compounds and their use in industry, agriculture, and in the manufacture of consumers' goods. Mentioned are raw materials for the production of polymers. This book belongs to the popular-science series of the Academy of Sciences. Similar volumes are intended for future publication. No references are given.

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